Handout #8: Guidelines for Peer Writing Assessment

You don't need to give a grade, or to correct every error you see. Try to focus on the most important things you notice about the paper, and make constructive comments that will help the writer improve the next draft.

In each of the following four categories, try to address as many as possible of the indicated questions. If the answer to any question is no, try to give specific examples and/or suggestions for improvement.

Mathematics and Logic:

- Does every step follow logically from the preceding ones?

- Is the justification for each step clear and correct? (This could mean that the justification is clearly stated, or that it is so obvious that it does not need to be stated.)

- If previous results are used, are they clearly identified? Are references given when needed?

- Is the theorem proved? Is the proof convincing?

Precision:

- Is each mathematical term used correctly according to its definition?

- Does every mathematical statement have a precise mathematical meaning?

- Is every variable either appropriately quantified or clearly defined in terms of other well-defined objects, *before* it is used?

- If some sentences are meant to convey intuition (rather than mathematical precision), are they clearly differentiated from mathematical statements?

Exposition:

- Is the main result clearly and precisely stated as a theorem, with its proof clearly delineated?

- Is the proof organized clearly into sentences and paragraphs? Are the sentences clear and easy to understand? Are they not too long or too convoluted or too short?

- Is the overall structure of the proof clear (e.g., whether it's a direct proof, indirect proof, contrapositive proof, proof by cases, proof by induction, etc.)?

- If the proof has multiple steps, are they clearly delineated, with appropriate transitions from one step to the next?

- Are formulas and symbolic statements appropriately interspersed with clarifying text so that they're easy to read and place in context?

- Is mathematical notation used appropriately, so as to avoid cumbersome English-language descriptions?

- Is the proof written at the right level for the intended audience (other students with similar background, but who don't necessarily know this result or its proof)?

Conventions:

- Are the grammar, spelling, punctuation, and usage correct?

- Are mathematical writing conventions followed correctly?

- Are symbols and formulas used correctly, with every formula playing a grammatical role as part of a complete sentence?

- Are logical terms written in words instead of using inappropriate logical symbols?